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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/623,568
Filing Date: July 22, 2003
Appellant(s): SUZUKI ET AL.

David P. Emery
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on July 30, 2008 appealing from the Office action mailed on December 27, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-4, 9/1, 10/9/1, 12/1, 17/1-21/1, 22, 24, 27, 29, 40/22, 41/40/22, 43/22, and 45/22-49/22.

Claims 5-8, 9/5, 11/5-21/5, 30-39, and 40/30-49/30 are allowed.

Claims 11/1, 13/1-16/1, 23/22, 25/22, 26/22, 28/22, 42/22, and 44/22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6,400,353	Ikechara et al.	2-2000
US 2004/0080491	Takatsuka et al.	10-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4 and 17/1 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikechara (US 6,400,353).

As to claim 1, Ikechara teaches an inputting device ("*pointing device*") [abstract line 1], which is disposed in an opening of a cabinet surface, [Drawing 1 provided below, which is equivalent to Ikechara's figure 3] comprising:

an elastic sheet ("*spring 15*") [fig. 3] having a top surface and a bottom surface, the top surface disposed in an inside surface of the cabinet including the opening and across the opening;

a sliding key (a combination of "*operating portion 8*", "*operation electrode 10*" and "*coupling pin 15a*") [fig. 3] that is fixed on the top surface of the elastic sheet with at least a portion in the opening of the cabinet surface; and

sensors that at least detect movement in a horizontal direction that is substantially parallel to the cabinet surface, of the sliding key [col. 4 lines 45-53].

As to claim 2, Ikehara teaches the sliding key having a rim part (a combination of "*10*" and "*15a*") [fig. 3] whose diameter is larger than that of the opening.

As to claim 3, Ikehara teaches the sliding key being adhered to the elastic sheet ("*15*") [fig. 3] at the rim part.

As to claim 4, Ikehara teaches the input device comprising:

a first control signal generating means ("*controller 4*") [fig. 4] that generates a first control signal corresponding to at least the moved direction of the sliding key detected by the sensors [col. 4 lines 45-53], wherein:

the first control signal executes the change of the position of a subject to be controlled on a display.

As to claim 17/1, Ikehara teaches the inputting device comprising at least one of projections ("*flat substrate 14*") [fig. 8] supporting the sliding key on the inside surface of the elastic sheet.

Claims 12/1, 19/1, and 21/1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikehara.

As to claim 12/1, Ikehara does not expressly teach the sliding key including a coil and sensors detecting the horizontal movement of the sliding key based on the electromotive force generated by the electromagnetic induction by the movement of the sliding key in the magnetic field of designated power formed at the surrounding part of the coil.

However, since the Applicants have failed to disclose that including a coil instead of a magnet in the sliding key and using sensors detecting the horizontal movement of the sliding key based on the electromotive force generated by electromagnetic induction instead of a magnetic field, provides an advantage, is used for particular purpose, or solves a state problem, it is an obvious matter of design choice to use a coil and sensors detecting the movement of the sliding key based on the electromotive force generated by the electromagnetic induction.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include any one of a magnet and a coil in the sliding key and to use any one of the sensors detecting the movement of the sliding key based on changes on electromotive force or magnetic field, since any one of the components such as a coil and a magnet and the sensors would perform equally well at detecting the horizontal movement of the sliding key.

As to claim 19/1, Ikehara [fig. 3] teaches the sliding key having an outside surface.

Ikehara does not expressly teach a nonskid component disposed on the outside surface of the sliding key.

However, Examiner takes official notice that it is well known in the art to include a nonskid part such as a rubber or a plastic having high friction ratio on the outer surface of an inputting key for electronic devices such as laptop computer, mobile phone, and PDA.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the outside surface of the sliding key of Ikehara being a nonskid portion in order to allow the device user of the inputting device of Ikehara to operate the sliding key more stably.

As to claim 21/1, Ikehara teaches an inputting device comprising an opening in a cabinet surface and a key formed on the front surface of an elastic sheet and disposed in the opening, as discussed with respect to the rejection of claim 1.

Ikehara does not expressly teach the inputting device comprising a plurality of openings in the cabinet surface and a group of keys formed on the front surface of the elastic sheet and each disposed in a corresponding opening of the plurality of openings.

However, the courts have held that a mere duplication of the components of the device is generally recognized as being within the level of ordinary skill in the art. St. Regis Paper Co. v. Bemis Co. Inc., 193 USPQ 8, 11 (7th Cir. 1977).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inputting device of Ikehara to include a plurality of sliding keys on the front surface of the elastic sheet and disposing each of the plurality of the sliding keys in a corresponding opening of a plurality of openings in the cabinet surface, in order to provide

multiple control means allowing the device user to control the cursor on a display with a plurality of input means.

Claims 9/1, 10/9/1, 18/1, 20/1, 22, 24, 27, 29, 40/22, 41/40/22, 43/22, and 45-22-49/22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikehara in view of Takatsuka (US 2004/0080491).

As to claim 9/1, Ikehara teaches the inputting device comprising a plurality of electrodes ("*direction electrode 11*" and "*input electrode 13*") [fig. 3] as sensors detecting the horizontal movement of the sliding key [col. 4 lines 45-53].

Ikehara does not expressly teach the sliding key including a magnet and sensors detecting the horizontal movement of the sliding key based on the change of the magnetic flux density from the magnet.

However, Takatsuka [fig. 21] teaches an inputting device comprising a sliding key ("*89*"), wherein:

a magnet ("*magnet 82*") is disposed in the sliding key, and
the sensors ("*magnet sensors 81*") detect the moved direction and the amount of the horizontal movement of the sliding key based on the change of the magnetic flux density from the magnet corresponding to the movement of the sliding key [par. (0143)].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inputting device of Ikehara to use a magnet and sensors detecting change of magnetic flux density, instead of the plurality of electrodes of Ikehara, as a sensing means for detecting horizontal movement of the sliding key, as taught by Takatsuka, in order to simplify

the structure of the electronic circuits required for building the sensors which detects a horizontal movement of the sliding key.

As to claim 10/9/1, Ikehara as modified by Takatsuka [Takatsuka: fig. 21] teaches an inputting device, wherein:

the sliding key provides a concave part (the space formed inside of the "manipulation member 89" which is taken by "magnet 8Z"),

the sliding key is adhered to the elastic sheet, and

the magnet is sealed in the sliding key.

Ikehara as modified by Takatsuka does not teach the concave part being located on a part of the surface where the sliding key is adhered to the elastic sheet.

However, Examiner submits that, as disclosed by the Applicants, the location of the concave part is not a factor required to accomplish the invention of the Application. Specifically, the Applicants disclose different design options for the location of the concave part in figures 4, 5, and 6 of the Application.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to place the concave part on either one of inside of the sliding key or on the surface of the sliding key where the sliding key is adhered to the elastic sheet, since any one of the locations of the concave part would perform equally well at storing the magnet of the input device.

As to claim 18/1, Ikehara [fig. 3] teaches the sliding key having an outside surface.

Ikehara does not expressly teach a concave part formed on the outside surface of the sliding key.

However, Takatsuka [fig. 21] teaches an inputting device comprising a sliding key (“89”) having a outside surface on which a concave part is formed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the sliding key of Ikehara to include a concave part on its outside surface, as taught by Takatsuka, in order to allow the device user of the inputting device of Ikehara to operate the inputting device more stably.

As to claim 20/1, Ikehara [fig. 3] teaches the sliding key having an outside surface.

Ikehara does not expressly teach one or more projections formed on the outside surface of the sliding key.

However, Takatsuka [fig. 21] teaches an inputting device comprising a sliding key (“89”) having a outside surface on which one or more projections are formed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the sliding key of Ikehara to include one or more projections on its outside surface, as taught by Takatsuka, in order to allow the device user of the inputting device of Ikehara to operate the inputting device more stably.

As to claim 22, all of the claim limitations have already been discussed with respect to the rejection of claim 1 except for a mobile terminal comprising the inputting device discussed in claim 1, a displaying means, and a first controlling means.

Ikehara teaches a first controlling means (“*controller*”) that executes first control corresponding to at least the moved direction of the sliding key in the horizontal directions detected by the sensors [col. 4 lines 45-53].

Ikehara teaches a displaying means (the display of the personal computer) [abstract line 19] that displays information.

Ikehara does not expressly teach a mobile terminal including the inputting device.

However, Takatsuka teaches a mobile terminal including an inputting device [par. (0003)] and a first controlling means executing a first control corresponding to the moved direction of a sliding key of the inputting device detected by sensors of the inputting device [par. (0019) lines 5-9].

Furthermore, Takatsuka inherently teaches the mobile terminal including a displaying means that displays information since it is required for Takatsuka's mobile terminal to include any kinds of displaying means in order to display any image related to the movement of the sliding key.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to adopt Takatsuka's idea of using an inputting device in a mobile terminal and thus to use the inputting device of Ikehara as an inputting means for a mobile terminal and to include a displaying means in the mobile terminal, as taught by Takatsuka, in order to provide a mobile terminal which can be operated by a disabled person with a declined muscular strength [col. 2 lines 5-12].

As to claim 24, Ikehara as modified by Takatsuka teaches a mobile terminal, wherein:
the sensors detect the movement and the amount of the movement of the sliding key in the horizontal direction [Ikehara: abstract lines 14-20], and

the first controlling means (Ikehara: “*controller*”) executes the first control corresponding to the moved direction and the amount of the movement of the sliding key [Ikehara: abstract lines 14-20].

As to claim 27, Ikehara as modified by Takatsuka teaches the first controlling means executes the change of the position displaying a subject to be controlled on the displaying means [Ikehara: col. 4 lines 53-55].

As to claim 29, Ikehara as modified by Takatsuka teaches the mobile terminal, wherein:
the sliding key has a rim part (Ikehara: a combination of “*10*” and “*15a*”) [Ikehara: fig. 3]
whose diameter is larger than that of the opening,

the sliding key is adhered to the elastic sheet (Ikehara: “*15*”) at the rim part, and
a space is formed on a part of the inside surface of the cabinet at the position adjoining the opening part, and

the rim part of the sliding key is disposed in the space.

As to claim 40/22, all of the claim limitations have already been discussed with respect to the rejection of claim 9.

As to claim 41/40/22, all of the claim limitations have already been discussed with respect to the rejection of claim 10.

As to claim 43/22, all of the claim limitations have already been discussed with respect to the rejection of claim 12.

As to claim 45/22, all of the claim limitations have already been discussed with respect to the rejection of claim 17.

As to claim 46/22, all of The claim limitations have already been discussed with respect to the rejection of claim 18.

As to claim 47/22, all of the claim limitations have already been discussed with respect to the rejection of claim 19.

As to claim 48/22, all of the claim limitations have already been discussed with respect to the rejection of claim 20.

As to claim 49/22, all of the claim limitations have already been discussed with respect to the rejection of claim 21.

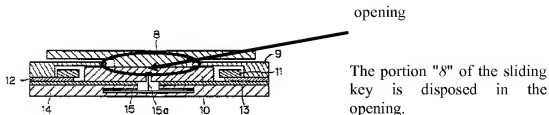
(10) Response to Argument

Claim 1

The Applicant [Appeal, pg 10] argues that Examiner's reliance on coupling pin 15a as corresponding to a part of the recited sliding key is improper because this component does not have a portion in an opening of a cabinet surface, and thus fails to meet all the features of claim 1.

Examiner respectfully disagrees.

The claim does not disclose a specific portion of the sliding key, i.e. the portion fixed on the outside surface of the elastic sheet, being disposed in the opening of the cabinet surface, but merely discloses any portion of the sliding key being disposed in the opening of the cabinet surface. Since Ikehara teaches a portion of the sliding key being disposed in the opening of the cabinet surface (Refer to the drawing 1 provided below, which is equivalent to figure 3 of Ikehara), Ikehara does teach the claim limitation.



Drawing 1

The Applicant [Appeal, pg 10] asserts that Examiner's bases for interpreting Ikehara's coupling pin 15a as a part of the sliding key are: (1) the coupling pin is moveable in a horizontal direction; and (2) the courts have held that integrating a plurality of separated parts into a single part is generally recognized as being within the level ordinary skill in the art.

Regarding the Applicant's arguments regarding the court case (the basis (2) disclosed above), as clearly explained in the Advisory Action mailed on March 21, 2008, the court case was not used as a basis for the rejection of the claim, but is merely provided to advise the Applicant that referring a combination of two parts as a single part would not be a patentable subject matter.

Accordingly, the Applicant's arguments regarding the court case [Appeal, pg 11-12] will not be discussed in this correspondence.

The Applicant [Appeal, pg 11] argues that since the operation electrode 10 and the coupling pin 15a are detached, it is improper to refer the coupling pin 15a as a part of the sliding key.

Examiner respectfully disagrees.

Examiner respectfully submits that the fact that two sub-components are not attached to each other does not prove that it is improper to refer the two sub-components as a single

component. As explained in the previous Office Action, the coupling pin 15a slides horizontally as the operating portion 8 and the operation electrode 10 slide horizontally. Because the coupling pin 15a slides horizontally, the spring 15 exerts an elastic force to the movement of the operating portion 8 and the operation electrode 10 in a direction opposed to the direction of the sliding movement of the operating portion 8 and the operation electrode 10, and thus more force is required to slide the operating portion 8 and the operation electrode 10. Also when no force is applied to the operating portion 8 and the operation electrode 10, the spring 15 exerts an elastic force to the operating portion 8 and the operation electrode 10 and thus forces the operating portion 8 and the operation electrode 10 slide back to their original positions by sliding the coupling pin 15a to its original position. As explained above, since the coupling pin 15a is directly related to and has an effect on the sliding movement of the operating portion 8 and the operation electrode 10, and the coupling pin 15a slides as the operating portion 8 and the operation electrode 10 slide, Examiner believes that it is reasonable to refer the coupling pin 15a as a part of the sliding key.

The Applicant [Appeal, pg 13] further argues that it is improper to refer the coupling pin 15a as a part of the sliding key since the operating portion 8 and the operation electrode 10 would function with or without the coupling pin 15a.

Examiner agrees with the Applicant that the operating portion 8 and the operation electrode 10 would function without the coupling pin 15a. However, if there is no coupling pin, the sliding movement of the operating portion 8 and the operation electrode 10 wouldn't be the same because no elastic force would be applied to the operating portion 8 and the operation electrode 10 without the coupling pin 15a. As explained above, since the function of the coupling

pin 15a is directly related to the sliding movement of the operating portion 8 and the operation electrode 10, it would be reasonable to refer the coupling pin 15a as a part of the sliding key.

The Applicant argues that only the operating portion 8 and the operation electrode 10 can meet the feature, "*at least a portion in said opening of said cabinet surface*" and asserts that because neither of these portions are fixed to elastic sheet, Ikehara fails to disclose a sliding key that is fixed on the outside surface of the elastic sheet.

Examiner respectfully disagrees.

Examiner respectfully submits that the claim does not disclose the portion disposed in the opening of the cabinet surface being the portion fixed to the outside surface of the elastic sheet. Since the sliding key of Ikehara includes a portion disposed in the opening of the cabinet surface and a portion fixed to the outside surface of the elastic sheet, Ikehara does teach the claim limitation.

Accordingly, Examiner respectfully submits that the Applicant's arguments regarding claim 1 are not persuasive.

Claims 9/1, 10/9/1, 12/1, 18/1-21/1, 22, 24, 27, 29, 40/22, 41/40/22, 43/22, and 45-22-49/22

Examiner respectfully submits that the Applicant's arguments regarding the above claims are not persuasive for the same reasons provided in response to the arguments with respect to the rejection of claim 1.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Seokyun Moon/
Examiner, Art Unit 2629
October 9, 2008

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